

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Prasad Shripad Kadle
App. No. : 10/602,380
Filed : June 24, 2003
Title : HVAC SYSTEM WITH COOLED DEHYDRATOR

Grp./A.U. : 3744
Examiner : Mohammad M. Ali

Docket No. : DP-308450 (H&H 60,408-221)

TRANSMITTAL OF APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

MAILSTOP: APPEAL BRIEF - PATENTS

Dear Sir:

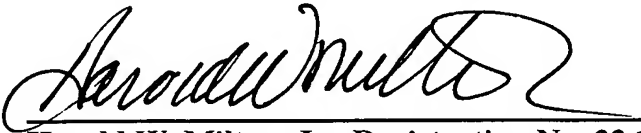
Applicant submits the attached Appeal Brief in response to the Official Action dated September 24, 2004. A check in the amount of \$ 500.00 is attached to cover the required fee for submitting this Appeal Brief. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 08-2789. A duplicate copy of this letter is enclosed herewith.

Respectfully submitted,

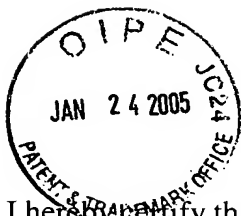
HOWARD & HOWARD ATTORNEYS, P.C.

January 19, 2005

Date


Harold W. Milton, Jr., Registration No. 22,180
The Pinehurst Office Center, Suite #101
39400 Woodward Ave.
Bloomfield Hills, MI 48304-5151
(248) 723-0352

HWM/alk



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CERTIFICATE OF MAILING

I hereby certify that the attached Appeal Brief for application serial number **10/602,380** filed **June 24, 2003** is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to the **Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450** on this **January 19, 2005**.

Anne L. Kubit
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BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
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Applicant submits the following arguments in support of this appeal in response to the Final Rejection set forth in the Official Action dated September 24, 2004.

(1) Real Party in Interest

This application was assigned by the inventorship to **Delphi Technologies, Inc.**, as evidenced by the assignment recorded on **June 24, 2003** at reel **014239**, frame **0644**.

(2) Related Appeals and Interferences

NONE

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(3) Status of Claims

Claims 1-10 are on appeal and are attached hereto in the Claims Appendix.

(4) Status of Amendments

All amendments have been entered and are reflected in the claims in the Claims Appendix.

(5) Summary of Claimed Subject Matter

Independent apparatus claim 1 covers an air conditioning system for a vehicle wherein a compressor (12) is connected to condenser (14) by a discharge fluid line (18) and to an evaporator (16) by a suction fluid line (22) with a liquid fluid line (20) interconnecting the condenser (14) and the evaporator (16). An accumulator/dehydrator (A/D) (24) is disposed in the suction fluid line (22) for accumulating refrigerant and a heat transfer jacket (36-38 or 40 or 41) surrounds the A/D (24) and includes a heat transfer media (34 or 41) independent of the refrigerant in the system for exchanging heat with the A/D (24) and the refrigerant in the system.

Independent method claim 6 operates the air conditioning system recited in claim 1 by including the steps of surrounding the A/D (24) with a heat transfer jacket (36-38 or 40 or 41) and exchanging heat with the A/D (24) and the refrigerant therein independently of the refrigerant in the system.

(6) Grounds of Rejection to be Reviewed on Appeal

Claims 1-4 and 6-9 are rejected under 35 U.S.C. 103 over Seigle et al., (5,722,146) in view of Telesz et al., (6,389,842). The Examiner holds that Seigle et al., discloses the invention claimed except for “a combined accumulator/dehydrator” and states: “Telesz et al., teach the use of an accumulator/dehydrator 10 in an air conditioning system for the purpose of separating liquid refrigerant from the gaseous refrigerant and absorbing moisture therefrom. See Fig.1. Therefore, it would have been obvious . . . to modify the heat exchanger of Seigle et al., in view of Telesz et al., such that a dehydrator portion could be provided in order to dehydrate the refrigerant.”

Claims 5 and 10 are also rejected over Seigle et al., (5,722,146) in view of Telesz et al., (6,389,842) as applied above but further in view of Bergman et al., (6,319,841) on the basis that it would have been obvious to incorporate the thermoelectric device 38 of Bergman et al., into the Seigle et al., and Telesz et al. combination.

(7) Argument

(A) Claims 1-4 and 6-9

In accordance with the subject invention, a heat transfer jacket surrounds the A/D with an independent heat transfer media therein that is independent of the refrigerant in the system. The subject invention is to employ the independent heat transfer media around the A/D in the known system.

The Telesz '842 patent is assigned to the assignee of the subject application and was invented by co-workers of the inventor herein. The Telesz '842 patent, in column 1 lines 22-33, describes the A/D as accumulating liquid in the bottom and vapor at the top to pass only the vapor to the compressor and includes a desiccant to absorb water from the refrigerant. It is to be noted that Telesz et al. disclose two chambers as defined by the outer casing **20-22** and the inner expansion chamber **32**. There is absolutely no suggestion in Telesz to surround the A/D with a heat exchange jacket.

Like Telesz et al., the Seigle et al. '146 patent also discloses a "two-chamber assembly 10 including a first or interior chamber **12** and a second or exterior chamber **14**. . . . The first chamber **12** can be, for example, a suction accumulator and the second chamber **14** can be, for example, a receiver for use in a refrigeration system." (Col. 2, lines 13-21). In other words, Seigle et al merely teach the exact same components and use as the Telesz et al. Seigle et al teaches a method of fabricating a two-chamber assembly and merely refers to the assembly as a heat exchanger for a wide variety of uses, see col. 4, lines 3-13. However, there is no suggestion in Seigle et al to surround the A/D with a heat transfer jacket having a heat transfer media therein that is independent of the refrigerant in the system. It is a big jump from the mere mention of a heat exchanger in Seigle et al to surrounding the A/D with a heat transfer jacket having a heat transfer media therein that is independent of the refrigerant in the system.

Stated another way, even if the Telesz et al. and Seigle et al. could be combined, the claimed combination would not result because the only specific teaching in Seigle et al. is for use as an A/D in the same manner as in Telesz et al. There is absolutely no

suggestion in either reference of a heat transfer jacket having a heat transfer media therein that is independent of the refrigerant in the system.

The mere reference to a “heat exchanger” in Seigle et al does not necessarily go to the issue of motivation to surround the A/D in an air conditioning system with a heat transfer jacket.

Under the law, whether based on the nature of the problem to be solved, the express teachings of the prior art, or the knowledge of one of ordinary skill in the art, the examiner is required to make specific findings as to whether there was a suggestion or motivation to combine the teachings of the references.

(B) Claims 5 and 10

Claims 5 and 10 specify that the heat transfer media comprises a thermoelectric device.

The Bergman et al., ‘841 patent relates to the vapor phase processing of semiconductor wafers **15** and merely shows a vapor cooler **38** in the outlet from a vapor generator **20**. The Bergman et al., ‘841 patent has nothing whatsoever to do with the air conditioning system claimed herein. Applicant does not claim to have invented a thermoelectric device nor denies the known use of a thermoelectric device for cooling. However, applicant did invent the combination of a thermoelectric device and an A/D in an air conditioning system. There is no suggestion in Bergman et al. to make such a combination.

The examiner has not made specific findings as to whether there was a suggestion or motivation to surround the A/D in an air conditioning system with a heat transfer jacket having a thermoelectric device that is independent of the refrigerant in the system. The examiner merely pulls a thermoelectric device off the shelf and says it would be obvious to combine it with an A/D in an air conditioning system without any reasoning to support the conclusion.

The route to obviousness must be a flagstone path, plainly perceptible in either the light of the dark. The examiner's path is tortuous and laid of unrelated chips from the prior art as directed by and in pursuit of applicant's invention.

(C) The MPEP standard for combining references

2143.03 All Claim Limitations Must Be Taught or Suggested [R-1]

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837, F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

. . . The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness . . .

ESTABLISHING A *PRIMA FACIE* CASE OF OBVIOUSNESS

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not be based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP §243 - §2143.03 for decisions pertinent to each of these criteria.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

The examiner has not provide sufficient reasoning to support the combination of the references by one skilled in the art absent applicant's invention. In other words, the examiner has not met the mandates of the MPEP.

(D). Summary

There is no suggestion in either of references of Telesz et al. and Seigle et al. to surround the A/D in an air conditioning system with a heat transfer jacket having a heat

transfer media therein that is independent of the refrigerant in the system. Even if the references of Telesz et al. and Seigle et al. could be combined, the claimed invention would not result because both teach the known use of an A/D to accumulate liquid in the bottom and vapor at the top and to absorb water from the refrigerant.

To merely find a use of a thermoelectric device in combination with a vapor chamber in the non-analogous art of processing semiconductor wafers (Bergman et al.) does not lead one to combine a thermoelectric device with an A/D in an air conditioning system.

The reversal of the rejection of claims 1-10 is respectfully solicited.

Respectfully submitted

HOWARD & HOWARD ATTORNEYS, P.C.

January 19, 2005

Date



Harold W. Milton, Jr., Registration No. 22,180

The Pinehurst Office Center, Suite #101

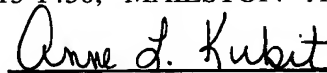
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Anne L. Kubit

(8) Claim Appendix

1. An air conditioning system for a vehicle comprising:

a compressor for compressing a refrigerant,

a condenser for condensing the refrigerant,

an evaporator for evaporating the refrigerant,

a discharge fluid line interconnecting the compressor and said condenser,

a liquid fluid line interconnecting said condenser and said evaporator,

a suction fluid line interconnecting said evaporator and said compressor,

an accumulator/dehydrator (A/D) disposed in said suction fluid line for accumulating refrigerant, and

a heat transfer jacket surrounding said A/D and including a heat transfer media independent of the refrigerant in the system for exchanging heat with said A/D and the refrigerant in the system.
2. A system as set forth in claim 1 wherein said heat transfer jacket defines a space surrounding said A/D and said heat transfer media is disposed in said space for cooling by extracting heat from the refrigerant in said A/D.
3. A system as set forth in claim 2 wherein said space is defined by an inner wall of said A/D and outer wall spaced therefrom.
4. A system as set forth in claim 2 wherein said jacket is defined by a double walled sleeve surrounding said A/D and defining said space between said walls thereof.

5. A system as set forth in claim 1 wherein said heat transfer media comprises a thermoelectric device.

6. A method of operating an air conditioning system of the type including a compressor for compressing a refrigerant, a condenser for condensing the refrigerant, an evaporator for evaporating the refrigerant, a discharge fluid line interconnecting the compressor and the condenser, a liquid fluid line interconnecting the condenser and the evaporator, a suction fluid line interconnecting the evaporator and the compressor, and an accumulator/dehydrator A/D disposed in the suction fluid line for accumulating refrigerant, said method comprising the steps of surrounding the A/D with a heat transfer jacket and exchanging heat with the A/D and the refrigerant therein independently of the refrigerant in the system.

7. A method as set forth in claim 6 further defined as surrounding the A/D with a space and disposing a heat transfer media in the space for cooling by extracting heat from the refrigerant in the A/D.

8. A method as set forth in claim 7 further defined as disposing an outer wall about an inner wall of the A/D to provide the space.

9. A method as set forth in claim 7 further defined as disposing a double walled sleeve about the A/D to define the space between the walls thereof.

10. A method as set forth in claim 6 further defined as disposing a thermoelectric device about the A/D to define the jacket.